REMARKS:

This Amendment and Response to Final Office Action is being submitted in response to the Final Office Action dated March 17, 2003. Claims 1-26, 32, 34, 36-42, 44, 46, and 48 are pending in the Application. Claims 1-26, 32, 34, 36-42, 44, 46, and 48 are rejected.

As previously stated, claims 27-31, 33, 35, 43, 45, 47, and 49-51 have been withdrawn from consideration pursuant to 37 CFR 1.142(b) as being drawn to a non-elected species of spin coating, linear coating head, and spray nozzle, there being no allowable generic or linking claim. Applicant timely traversed the restriction (election) requirement in Paper No. 5.

Objections:

Claim 36 stands objected to because "simultaneously" is misspelled. Claim 36 has been amended to correct the spelling.

Rejections:

Claims 1-11, 16, 18, 21, 22, 25, 32, 34, 36, 46, and 48 stand rejected under 35 USC §102(b) as being anticipated by Schultz et al. (U.S. Patent No. 6,004,617). As the Examiner is well aware, a claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference.@ *Verdegaal Bros. v. Union Oil Co. of California*, 2 U.S.P.Q. 2d 1051, 1053 (Fed. Cir. 1987), *cited in*, M.P.E.P. ' 2131. The identical invention must be shown in as complete detail as is contained in the ... claim.@ *Richardson v. Suzuki Motor Co.*, 9 U.S.P.Q. 2d 1913, 1920 (Fed. Cir. 1989). In addition, the elements must be arranged as required by the claim. M.P.E.P. ' 2131, *citing*, *In re Bond*, 15 U.S.P.Q. 2d 1566 (Fed. Cir. 1990). Thus, if any feature taught by the claimed invention is not taught by the

reference cited by the Examiner, then the claimed invention and the reference are patentably distinct. In such a case, a 35 USC §102 rejection is improper.

In claim 1, applicant claims that "the combinatorial coating library comprises a predetermined combination of at least one of the plurality of materials and at least one of the plurality of curing environments associated with ***each of the plurality of regions***." Therefore, the library contains <u>one</u> (at a minimum) curing environment for ***each*** of the plurality (two or more) of regions. Or in other words, in the applicant's invention the curing environments (reaction conditions) of each of the plurality of regions have the same set of reaction (curing) conditions. The limitation assures that the same set of conditions are at least duplicated, and that the reproducibility of results is confirmed. Schultz, on the other hand, states in claim 1 "(e) reacting said components on said first single substrate under a ***first set of reaction conditions*** and said components on said second single substrate under a ***second set of reaction conditions*** to form at least two different arrays of at least two different materials." In Schultz, the reaction conditions are clearly different on each substrate (region) and hence are not duplicated. Applicant's method combines duplication with variation to create / use a combinatorial library, while Schultz relies on maximizing variation, with no apparent redundancy. Applicant's claim 1 contains features that are expressly eliminated by Schultz, and hence the two inventions are different. In such a case, a 35 USC §102 rejection is improper, and the rejection should be withdrawn.

Schultz includes the same phrase (e) in the other independent claims 17, 18, 19 and 20. Applicant includes the phrase previously cited "the combinatorial coating library comprises a predetermined combination of at least one of the plurality of materials and at least one of the plurality of curing environments associated with each of the plurality of regions" in independent claims 11, 17, 26, 36, 44 and 48. In such a case, a 35 USC §102 rejection is improper, and the rejections for 11, 17, 26, 36, 44 and 48 and their dependent claims should be withdrawn.

Claims 19, 20, 26 and 44 are rejected under 35 U.S.C. §103(a) as being unpatentable over Schultz as applied to claims 1-11, 16-21, 21-22, 25, 34, 36-41, 46 and 48 above, and further in view of the admitted state of the art.

Claims 12-15, 17-18 and 42 are rejected under 35 U.S.C. §103(a) as being unpatentable over Schultz as applied to claims 1-11, 16-21, 21-22, 25, 34, 36-41, 46 and 48 above, and further in view of Courtney et al. (US 4,390,615).

Generally, to establish *prima facie* obviousness of the claimed invention, all the cited limitations must be taught or suggested by the prior art@. *In re Royka* 490 Fed. 2nd 981 (C.C.P.A., 1974). A statement that modifications of the prior art to meet the claimed invention would have been well within the ordinary skill of the art at the time the claimed invention was made because the references relied upon teach that all aspects of the claimed invention were individually known in the art is not sufficient to establish *prima facie* case of obviousness without some objective reason to combine the teachings of the references.@ M.P.E.P. '2143.02, *citing Ex Parte Levengood*, 28 U.S.P.Q. 2nd 1300 (Bd. Pat. App., 1993).

The mere fact that references can be combined or modified does not render the resultant combination obvious unless the prior art also suggests the desired validity of the combination. M.P.E.P. §2143.01; *In re Mills*, 1916 Fed. 2nd 680, 16 U.S.P.Q. 2nd 1430 (Fed. Cir. 1990).

The Examiner has cited Schultz et al. col. 26, lines 27-50, and deduced in paragraph 4 of the Final Office Action that Schultz "clearly teaches a curing system and method where a curing environment is simultaneously applied to each of a plurality of regions associated with the at least one coating".

Specifically Schultz says in col. 26, lines 46-50 "Such techniques can be applied directly to a given predefined region on the substrate or, alternatively, to all of the predefined regions on the substrate in a simultaneous fashion (e.g., the substrate can be mechanically moved in a manner such that the components are effectively mixed)." Applicant understands this phrase to mean that one or multiple techniques (i.e. mixing and moving) can simultaneously be applied to one or more regions. It does not assure that any one technique will be applied to multiple regions, and it would be a major inductive leap of logic to conclude that Schultz is describing a curing system and method where a curing environment *is* simultaneously applied to each of a plurality of regions

associated with the at least one coating. The Schultz claims contradict the Examiner's conclusion, as all the independent claims cite the limitation (e) previously discussed, wherein two reaction conditions are used to form at least two different arrays of at least two different materials.

The rejection is clearly improper, reconsideration thereof is hereby requested for claims 19, 20, 26 and 44.

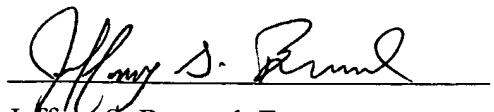
Courtney et al (US 4,390,615) teaches compositions that employ actinic light to polymerize coatings. Courtney'615 would appear to only tangentially be relevant to the discussion of creating and using combinatorial libraries. Therefore, rejection of claims 12-15, 17-18 and 42 is traversed and respectfully requests that these rejections also be withdrawn.

Conclusion:

Applicant would like to thank Examiner for the attention accorded the present Application. In light of the foregoing amendments and remarks, Applicant requests that Examiner reconsider this Application and allow Claims 1-26, 34, 36-42, 44, 46, and 48. Should Examiner have any questions, or should any further action be required to place the Application in better condition for allowance, Examiner is encouraged to contact undersigned Counsel at the telephone number, address, or email address provided below.

Respectfully submitted,

Date: 5/14/03



Jeffrey S. Bernard, Esq.
Attorney for Applicant
Reg. No.: 50,020

DOUGHERTY, CLEMENTS & HOFER
1901 Roxborough Road, Suite 300
Charlotte, NC 28211 USA
Tel: 704-366-6642

Fax: 704-366-9744
JBernard@worldpatents.com

CLAIMS WITH MARKINGS TO SHOW AMENDMENTS MADE

In accordance with 37 CFR 1.121(c)(1), the following version of the Claims, as rewritten by the foregoing amendments, shows the changes made relative to previous versions of the Claims. Material added is shown in underlined text and material deleted is shown in ~~strikethrough~~.

[c01] (Previously Amended) A system for creating a combinatorial coating library, comprising:

a coating system operatively coupled to at least one of a plurality of materials suitable for forming at least one coating layer on a surface of one or more substrates; and

a curing system operative to apply at least one of a plurality of curing environments simultaneously to each of a plurality of regions associated with the at least one coating layer;

wherein the combinatorial coating library comprises a predetermined combination of at least one of the plurality of materials and at least one of the plurality of curing environments associated with each of the plurality of regions.

[c02] (Original) The system of claim 1, wherein the curing system is operable to apply substantially the same predetermined one of the plurality of curing environments to each of the plurality of regions associated with the at least one coating layer of the one or more substrates.

[c03] (Original) The system of claim 1, wherein the curing system is operable to apply a substantially different predetermined one of the plurality of curing environments to each of the plurality of regions associated with the at least one coating layer of the one or more substrates.

[c04] (Previously Amended) The system of claim 1, wherein the plurality of materials further comprise a material selected from the group consisting of polymeric materials and oligomeric materials.

[c05] (Original) The system of claim 1, wherein the coating system further comprises a coating system selected from the group consisting of a spray/vapor coating system, spin coating system, dip coating system, flow coating system, and draw-down coating system.

[c06] (Original) The system of claim 1, wherein the curing system further comprises a heating source in thermal communication with a heating element operably positionable adjacent to the one or more substrates

[c07] (Original) The system of claim 6, wherein the heating element has a variable heat distribution characteristic along a dimension of the heating element.

[c08] (Original) The system of claim 6, wherein the heating element has a constant temperature distribution along a dimension of the heating element.

[c09] (Original) The system of claim 6, wherein the heating element has a variable temperature distribution along a dimension of the heating element.

[c10] (Original) The system of claim 6, wherein the heating element has a geometrical shape which is a predetermined function along the length of the heating element.

[c11] (Previously Amended) A system for creating a combinatorial coating library, comprising:

a coating system operatively coupled to at least one of a plurality of materials suitable for forming at least one coating layer on a surface of one or more substrates; and

a curing system operative to apply at least one of a plurality of curing environments simultaneously to each of a plurality of regions associated with the at least one coating layer, the curing system comprising a heating source in thermal communication with an elongate heating element operably positionable adjacent to the

one or more substrates, wherein the heating element has a variable heat distribution characteristic along a dimension of the heating element;

wherein the combinatorial coating library comprises a predetermined combination of at least one of the plurality of materials and at least one of the plurality of curing environments associated with each of the plurality of regions.

[c12] (Previously Amended) The system of claim 1, wherein the curing system further comprises a spatial mask having an elongate surface positioned between a curing source and the at least one coating layer, wherein a radiation transmission characteristic varies along a dimension of the elongate surface of the spatial mask.

[c13] (Previously Amended) The system of claim 1, wherein one of the plurality of curing environments associated with at least one coating layer further comprises a spatial mask having at least one dimension said mask being positioned between [the] a curing source and the at least one coating layer, wherein the radiation transmission characteristic varies along at least one dimension of the spatial mask.

[c14] (Previously Amended) The system of claim 13, wherein the radiation transmission characteristic varies as a function of time and wavelength.

[c15] (Previously Amended) The system of claim 13, wherein the radiation transmission characteristic varies exponentially, linearly, sinusoidally, or stepwise.

[c16] (Previously Amended) The system of claim 1, wherein the plurality of curing environments include a curing environment selected from the group consisting of thermal radiation, ultraviolet radiation, visible radiation, microwave radiation, electron beam radiation, laser radiation, and humidity.

[c17] (Previously Amended) A system for creating a combinatorial coating library, comprising:

a coating system operatively coupled to at least one of a plurality of materials suitable for forming at least one coating layer on a surface of one or more substrates; and

a curing system operative to apply at least one of a plurality of curing environments simultaneously to each of a plurality of regions associated with the at least one coating layer, wherein the plurality of curing environments include a curing environment selected from the group consisting of thermal radiation, ultraviolet radiation, visible radiation, microwave radiation, electron beam radiation, laser radiation, and humidity, the curing system comprising a spatial mask having an elongate surface positioned between a curing source and the at least one coating layer, wherein a radiation transmission characteristic varies along a dimension of the elongate surface of the spatial mask;

wherein the combinatorial coating library comprises a predetermined combination of at least one of the plurality of materials and at least one of the plurality of curing environments associated with each of the plurality of regions.

[c18] (Previously Amended) The system of claim 17, wherein the coating system further comprises a coating system selected from the group consisting of a spray and vapor coating system, spin coating system, dip coating system, flow coating system, and draw-down coating system.

[c19] (Previously Amended) The system of claim 1, wherein said coating system further comprises a dip-coating apparatus having a plurality of substrate holders and a corresponding plurality of wells, the plurality of substrate holders and the plurality of wells relatively positionable to immerse a plurality of substrates secured by the plurality of substrate holders within at least one of the plurality of materials disposed within the plurality of wells.

[c20] (Original) The system of claim 19, further comprising a plurality of substrates each secured by one of the plurality of substrate holders, each of the plurality of substrates comprising an acoustic wave transducer having a first acoustic wave parameter and a second acoustic wave parameter, the first acoustic wave parameter corresponding to a first amount of coating or viscoelastic property of the coating layer, the second acoustic

wave parameter corresponding to a second amount of coating or viscoelastic property of the coating layer.

[c21] (Original) The system of claim 1, wherein each of the plurality of curing environments comprises one of a plurality of curing sources and one of a plurality of curing characteristics, wherein the curing system is operable to apply substantially the same curing source in combination with a substantially different predetermined one of the plurality of curing characteristics to each region associated with the coating layer.

[c22] (Original) The system of claim 1, wherein each of the plurality of curing environments comprises one of a plurality of curing sources and one of a plurality of curing characteristics, wherein the curing system is operable to apply a substantially different curing source in combination with a substantially different predetermined one of the plurality of curing characteristics to each region associated with the coating layer.

[c23] (Original) The system of claim 1, wherein one of the plurality of curing environments associated with at least one coating layer further comprises a scanning mirror system having a mirrored surface positionable relative to an incoming radiation beam, wherein the mirrored surface is positionable to direct the incoming radiation beam to a selected one of the plurality of regions associated with the coating layer.

[c24] (Original) The system of claim 1, wherein one of the plurality of curing environments associated with at least one coating layer further comprises a plurality of waveguides each having a first end corresponding to one of the plurality of regions associated with the coating layer and a second end associated with a curing source.

[c25] (Original) The system of claim 1, wherein one of the plurality of curing environments associated with at least one coating layer further comprises a heating source in thermal communication with an elongate heating element operably positionable adjacent to the plurality of substrates, wherein the elongate heating element has a modulated heat transmissibility characteristic.

[c26] (Original) A system for creating a combinatorial coating library, comprising:

a plurality of substrates each secured by one of a plurality of substrate holders, each of the plurality of substrates comprising an acoustic wave transducer having a first acoustic wave parameter and a second acoustic wave parameter, the first acoustic wave parameter corresponding to a first amount of coating or viscoelastic property of a coating layer on the substrate, the second acoustic wave parameter corresponding to a second amount of coating or viscoelastic property of the coating layer on the substrate;

a coating system operatively coupled to at least one of a plurality of materials for forming a coating layer on a surface of each of the plurality of substrates, the coating system comprising a dip-coating apparatus having a plurality of substrate holders and a corresponding plurality of wells, the plurality of substrate holders and the plurality of wells relatively positionable to immerse the plurality of substrates secured by the plurality of substrate holders within at least one of the plurality of materials disposed within the plurality of wells; and

a curing system operative to apply at least one of a plurality of curing environments to each of a plurality of regions associated with the coating layer;

wherein the combinatorial coating library comprises a predetermined combination of at least one of the plurality of materials and at least one of the plurality of curing environments associated with each of the plurality of regions.

[c34] (Previously Amended) The system of claim 1, wherein the at least one coating layer has a variable thickness.

[c36] (Amended) A method for using a combinatorial coating library, comprising the steps of:

selectively applying at least one of a plurality of materials suitable for forming at least one coating layer to a surface of one or more substrates; and

selectively applying at least one of a plurality of curing environments ~~simulatneously~~ simultaneously each of a plurality of regions associated with the at least one coating layer;

wherein the combinatorial coating library comprises a predetermined combination of at least one of the plurality of materials and at least one of the plurality of curing environments associated with each of the plurality of regions.

[c37] (Previously Amended) The method of claim 36, wherein selectively applying at least one of the plurality of curing environments to each of the plurality of regions further comprises selectively applying substantially the same predetermined one of the plurality of curing environments to each of the plurality of regions associated with the at least one coating layer of the one or more substrates.

[c38] (Previously Amended) The method of claim 36, wherein selectively applying at least one of the plurality of curing environments to each of the plurality of regions further comprises selectively applying a substantially different predetermined one of the plurality of curing environments to each of the plurality of regions associated with the at least one coating layer of the one or more substrates.

[c39] (Previously Amended) The method of claim 36, wherein the plurality of materials further comprise a material selected from the group consisting of polymeric materials and oligomeric materials.

[c40] (Previously Amended) The method of claim 36, wherein selectively applying at least one of a plurality of curing environments to each of a plurality of regions associated with the at least one coating layer, further comprises using a curing system comprising a heating source in thermal communication with a heating element operably positionable adjacent to the one or more substrates.

[c41] (Previously Amended) The method of claim 36, wherein selectively applying at least one of a plurality of curing environments to each of a plurality of regions associated with the at least one coating layer, includes using a curing system comprising a heating source in thermal communication with an elongate heating element operably positionable adjacent to the one or more substrates, wherein the elongate heating element has a variable heat distribution characteristic along a dimension of the heating element.

[c42] (Previously Amended) The method of claim 36, wherein selectively applying at least one of a plurality of curing environments to each of a plurality of regions associated with the at least one coating layer, includes using a spatial mask having an elongate surface, said spatial mask having a radiation transmission characteristic which varies along a dimension of the elongate surface of said spatial mask.

[c44] (Previously Amended) A method for using a combinatorial coating library, comprising the steps of:

providing a plurality of materials for forming a coating layer on a surface of a substrate;

providing a dip-coating apparatus having a plurality of substrate holders and a corresponding plurality of wells, the plurality of substrate holders and the plurality of wells relatively positionable to immerse a plurality of substrates secured by the plurality of substrate holders within at least one of the plurality of materials disposed within the plurality of wells; and

providing at least one of a plurality of curing environments to each of a plurality of regions associated with the coating layer;

wherein the combinatorial coating library comprises a predetermined combination of at least one of the plurality of materials and at least one of the plurality of curing environments associated with each of the plurality of regions.

[c46] (Previously Amended) The method of claim 44, further comprising sequentially depositing the at least one material and applying the at least one curing environment to form a multi-layer coating, wherein the sequence of depositing and applying comprises a coating and curing sequence selected from a plurality of coating and curing sequences.

[c48] (Previously Amended) A method for using a combinatorial coating library, comprising the steps of:

selectively depositing at least one coating layer formed from at least one of a plurality of materials onto a surface of a substrate, the surface of the substrate comprising a plurality of regions; and

selectively applying at least one of a plurality of curing environments simultaneously to each of the plurality of regions;

wherein the selective combination of the at least one of the plurality of materials and the at least one of the plurality of curing environments associated with each of the plurality of regions forms the combinatorial coating library.